P- BLOCK ELEMENTS

1. Which of the following statement is correct? **[M-2012]**

i)Boron reacts with conc.HNO_3 to form Nitric oxide and boric acid

ii) Boron reacts with fused NaOH to form H_2O_2 and boric acid

iii)Boron reacts with SiO_2 to form Si and B_2O_3

1) I, ii and iii 2) i and iii 3)ii and iii 4) i and ii

2. The reaction that give CO_2 as one of the product is **[M2012]**

1) $3\,C + 4\,HNO_3 \rightarrow$

2) $6\,NaOH + 2C \rightarrow$

3) $SnO_2 + 2C \rightarrow$

4) $Fe_2O_3 + 3C \xrightarrow{250°-400^oC}$

3. Which one of the following is the mineral for tin? **(E-2010)**

1) galena 2) cerussite 3) cassiterite 4) anglesite

4. Identify B in the following reaction **(E-08)**

$$H_4SiO_4 \xrightarrow[-H_2O]{1000°C} A \xrightarrow[\Delta]{Carbon} B + CO.$$

1) Carborundum 2) Quartz 3) Silica 4) Carbon

5. Aluminium becomes passive with **(M-2010)**

1) conc. HNO_3 2) dil.H_2SO_4 3) very dil. HNO_3 4) conc. H_2SO_4

6. A mixture of boron trichloride and hydrogen is subjected to silent electric discharge to form 'A' and HCl. 'A' is mixed with NH_3 and heated to 200°C to form B. The formula of B is (M - 2008)

1) H_3BO_3 2) B_2O_3 3) $B_3N_3H_6$ 4) B_2H_6

7. Duralumin is an alloy of **(AFMC2003)**

1) Al and Mg 2) Al, Mg and Ni 3) Al, Mg, Mn and Cu 4) Al and Ni

8. Diborane react with ammonia under different conditions to give a variety of products. Which one among the following is not formed in these reactions **(E-2010)**

1) B_2H_6. 2 NH_3 2) $B_{12}H_{12}$ 3) $B_3N_3H_6$ 4) $(BN)_n$

9. A mixture of boron trichloride and hydrogen is subjected to silent electric discharge to form A and HCl. A is mixed with NH_3 and heated to 200°C to form B.The formula of B is [E-2008]

1) H_3BO_3 2) B_2O_3 3) B_2H_6 4)$B_3N_3H_6$

10. Which among the following is not a borane?

[AMU2009]

1) B_2H_6 2) B_3H_6 3) B_4H_{10} 4) none of these

11. The hardest substance is **[PMT2009]**

1) Iron 2) Steel 3) graphite 4) diamond

12. SiO2 is reacted with Na_2CO_3, What is the gas liberated? **[AMU2009]**

1) CO 2)CO_2 3)O_2 4)O_3

13. White lead is **[CPMT2007]**

1) Pb_3O_4 2) PbO 3) $2PbCO_3.Pb(OH)_2$ 4)$Pb(CH_3COO)_2.Pb(OH)_2$

14. The stability of +1 oxidation state increases in the sequence **[AIPMT2009]**

1)Al<Ga<In<Tl 2)Tl<In<Ga<Al 3)In<Tl<Ga<Al 4)Ga<In<Al<Tl

15. The tendency of BF_3, BCl_3 and BBr_3 to behave as lewis acid decreasing in the sequence **[AIPMT2010]**

1) $BF_3>BCl_3>BBr_3$ 2) $BCl_3>BF_3>BBr_3$

3) $BBr_3>BCl_3>BF_3$ 4) $BBr_3>BF_3>BCl_3$

16.Which one of the following anion is present in the Chain structure of silicates? **[AIPMT2007]**

1)$Si_2O_7^{-6}$ 2)$(Si_2O_5^{2-})_x$ 3) $(SiO_3^{2-})_x$ 4)SiO_4^{-4}

17. Borax is used as a cleaning agent because on dissolving in water it gives **[AIIMS2006]**

1) alkaline solution 2) acidic solution 3)bleaching solution 4) colloidal solution

18. The hybridization of carbon in Fullerene is **[AFMC 2002]**

1) SP^3 2) SP^2 3)SP 4) SP^3d

19. The silicates which does not contain discrete anions are **[JIPMER2006]**

1) sheet silicates 2) cyclic silicates 3) ortho silicates 4) pyro silicates

20. which of the following oxidation states are the most characteristic for Lead and Tin Respectively **[AIPMT2007]**

1)+4, +2 2) +2, +4 3) +4, +4 4) +2, +2

21. Inorganic graphite is **[AFMC 2006]**

1)$B_3N_3H_6$ 2) $(BN)_x$ 3)SiC 4)$Fe(CO)_5$

22. Diamond is harder than graphite because **[AMU2006]**

1) graphite is planar 2) diamond has free electron

3) graphite is SP^3 hybrid 4) none of these

23. Boron shows single oxidation state due to absence of **[AMU2006]**

1) inert pair effect 2) screening effect 3) isotope effect 4)none of these

24. Which of the following is acidic in nature [AIIMS 2004]

1) $B(OH)_3$ 2) $Al(OH)_3$ 3) $Be(OH)_2$ 4) $Mg(OH)_2$

25. The liquefied metal expanding on solidification is [AFMC 2007]

1) Al 2) Cu 3) Ga 4) Zn

26. A and B are the compounds of carbon. A on passing over red hot coke is converted to B. A and B respectively are

(M-2010)

1) CO and CO_2 2) CH_4 and C_2H_6 3) CO_2 and CO 4) CCl_4 and $CHCl_3$

27. Hydrolysis of $SiCl_4$ gives compound X and HCl. On heating to 1000°C X looses water and forms Y. Identify X and Y respectively (M - 2008)

1) H_4SiO_4 and SiO_2 2) SiO_2 and Si3) SiO_2 and SiC 4) H_4SiO_4 and SiC.

28. The chemical formula of Felspar is [E2007]

1) $KAlSi_3O_8$ 2) Na_3AlF_6 3) $NaAlO_2$ 4) $K_2SO_4Al_2(SO_4)_3.4Al(OH)_3$

29.In Diborane ,the H-B-H angles are nearly

[AIIMS2005]

1) 60^o . 120^o 2) 95^o ,150^0 3) 95^o ,120^0 4) 120^0 , 180^0

30. Quartz is a/an [JIPMER2003]

1) sheet silicates 2) ortho silicates

3) pyro silicates 4) three dimensional silicates

KEY

1) 2	**2)1**	**3)3**	**4) 4**	**5)1**	**6)3**	**7)3**	**8)2**	**9) 4**	**10)2**
11) 4	**12)2**	**13)3**	**14)1**	**15)3**	**16)3**	**17)1**	**18)2**	**19)1**	**20)2**
21) 2	**22)1**	**23)1**	**24)1**	**25)3**	**26)3**	**27)1**	**28)1**	**29)3**	**30)4**